

Student Name: Timothy Rees.

Student Number: 1807470.

Module Title: Fundamentals of construction technology.

Module Code: ACBA4001.

Course Title: HND Quantity Surveying.

Submission Date: 26 July 2019.

To

Allan Nantel.

Table of Contents.

1.0 Aim and objectives of the report.

1.1 Preliminary desk top study, walk-over survey and observations.

1.1.1 Maps and Arial photographs/drawings.

1.1.2 Site location and access.

1.1.3 Walk over survey.

1.2 Current development and historical background of the site.

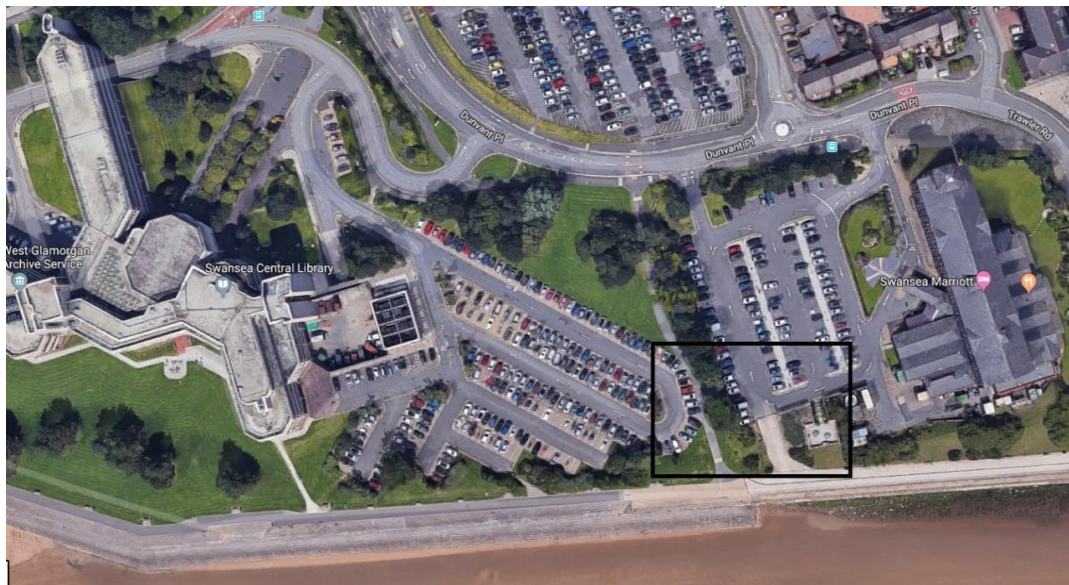
1.3 Recommendations for site investigation to be carried out by others.

1.4 Foundations and substructure for the building.

1.5 Bibliography and references.

1.0 Aims and objectives of the report.

The aims and objectives of this report are to provide our clients, The City and County of Swansea and Marriott Hotels with a detailed report on multiple factors (sections 1.2-1.7 of this report) on their proposed plans to construct a new restaurant and ice-cream parlour at the indicated position on Swansea Bay. The proposed site is set to contain an ice-cream parlour, restaurant, café bar, kitchen, food stores along with a self-contained managers apartment with staff welfare facilities. The new building is to share car parking facilities with both the Marriot Hotel and the Swansea Civic Centre which are adjacent to the new proposed site. The purpose of this report is to assist in determining factors that include site suitability, methods of construction, establishing ground difficulties, possible resources and potential risks and contamination. This report will further assist in the tendering process of this project.



(Figure 3)

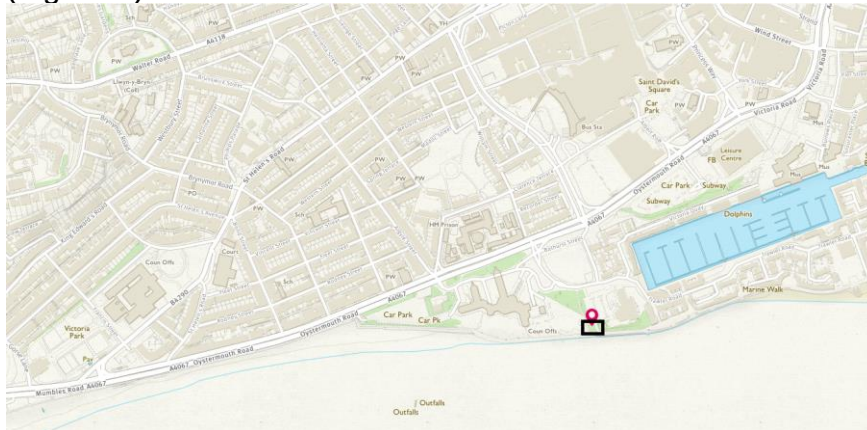
1.1 Preliminary desk top study and brief walk over inspection.

1.1.1 Maps and Arial photographs.

During my desk stop study I have sourced various types of maps from sources such as <https://osmaps.ordnancesurvey.co.uk> and <https://www.google.com/maps/@51.6137968,-3.9456857,246m/data=!3m1!1e3>. These are shown below:

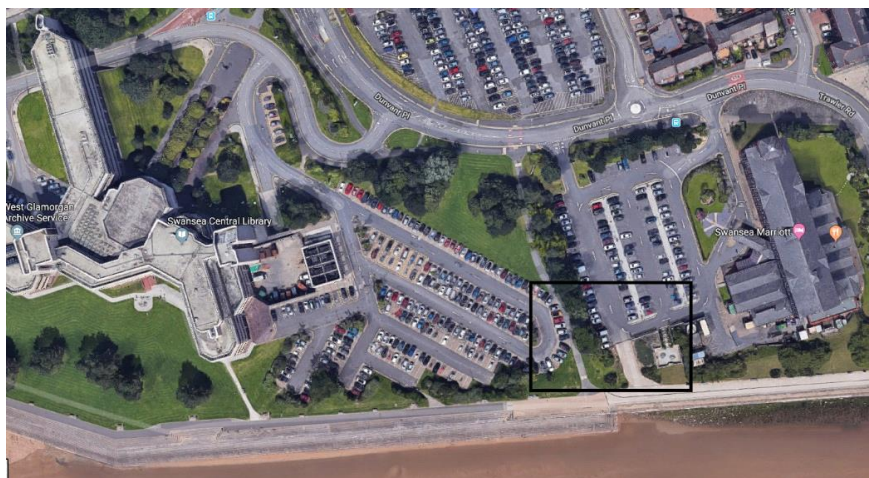


(Figure 1)

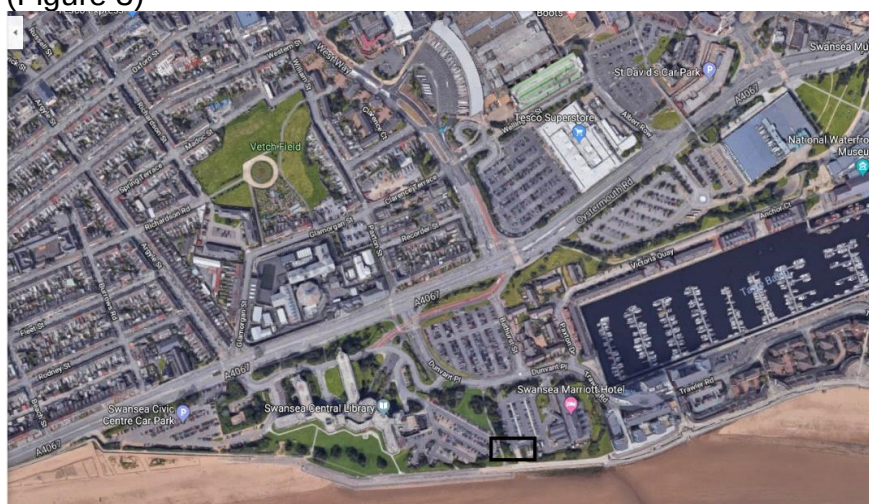


(Figure 2)

(Ordnance Survey maps taken from <https://osmaps.ordnancesurvey.co.uk> ,accessed 10/july/2019)



(Figure 3)



(figure 4)

(Birds eye images of the proposed site, taken from <https://www.google.com/maps/@51.6144584,-3.9481773,985m/data=!3m1!1e3>, accessed 10/01/2019).

1.2.4 Walkover Survey.

During my research I visited the site on 9 July 2019 to carry out a walk-over survey. During this walk-over survey I found the site to be generally uneven and to contain a moderate number of trees.

(see figure 5). Which would require the site to be levelled. During my walk-over survey I also discovered that the site was subjected to strong winds and heavy rain. During my brief walk over inspection of the site I can see that the proposed site is situated adjacent to both the Swansea Civic Centre and the Marriott Hotel situated on Dunvant place. The site is also currently situated along the promenade that runs parallel to Oystermouth road(A4067). The site is based on a sea front location which can propose an increased amount of difficulties when compared to building in-land. This is something that has been considered when compiling sections 1.3-1.7 of this report. Access to the proposed site will be available via Swansea's Oystermouth road(A4067). This is currently the only available access to reach to proposed site on Dunvant place.





(figure 5) (Images taken by me)

1.2. Current development and historical background of the proposed site.

The proposed site currently facilitates part of the car parks of both the Marriott Hotel and Swansea Civic Centre. Both facilities currently have an adjoining footpath to reaches from their respective car parks to the promenade footpath that runs parallel to Swansea bay. During my desk top study, I contacted Swansea civic center by phone on 08 July 2019 to find out when the Civic center and Marriott hotel were originally built and to find out the history of both facilities and the land they share with the new proposed site. Unfortunately, the agent from the Swansea Civic Centre informed me that due the current location of the archives that contain this information are currently being moved to a new location and are unable to provide the information at the time of my call.

Upon receiving this information, I checked the Swansea Council's online planning portal (Property.swansea.gov.uk, 2019, Accessed 08 July 2019) in order to try and further research the history of the proposed site. Here I discovered that both the Marriott Hotel and the City and County of Swansea have both had no significant planning applications on these sites with the exception of an approved planning application (Approved on 19 December 2008) from Marriott Hotels to construct a smoking shelter in the ground of their car park. As this smoking shelter is not situated directly on the proposed site it does not bear any significance in the construction of the proposed project.

During my research I widely researched the historical background of the proposed site. (<http://historypoints.org/index.php?page=swansea-marina>) tells us that the proposed site is situated towards the western side of Swansea's Maritime Quarter. (<http://www.localhistories.org/swanseatime.html>) Tells us that the Civic Center which is adjacent to the proposed site was originally constructed in 1982. (<https://www.hotel.info/en/swansea-marriott-hotel/hotel-170106/>) Tells us that the Marriott hotel that is also situated adjacent to the proposed site was originally constructed in 1989 and had some partial renovation works carried out in 2007.

1.3 Recommendations for a further site investigation to be carried out by others

(CHUDLEY and GREENO, 2017) Tells us that when preparing a Site Investigation for new works the basic objective of the site investigation is to collect and record all of the data which will be required or will further assist in the design and construction phases of the proposed project. The data that is collected from this survey should be presented in the form of fully annotated and dimensioned plans and sectional drawings. During this site investigation anything on neighboring sites which may affect the proposed works must also be documented.

(CHUDLEY and GREENO, 2017) Tells us that some of the data that is typically required to be collected would include property boundaries and location of the proposed site, existing trees (including the type, girth, spread and height of the trees), trees and buildings on neighboring sites, details of any above-ground obstructions such as transmission lines, full data in regard to type, size, depth and location of all services such as gas, water, drains, electricity, telephone and relay services. Other required data might include a subsoil investigation (soil types, properties and ground water conditions) or the orientation of the proposed site.

By utilizing approved UK building regulations documents such as UK Building Regulations Approved Document C – Site Preparation and Resistance to Moisture and Contaminants DATE, some recommendations for methods to be used in this site investigation would include:

Lab testing of soil samples:

This would allow for testing and confirmation of soil classification, quality, permeability, shear strength and compressibility. When referring to the testing of soil samples this is not to include the top soil. ([Building Regulations Approved Document C – Site Preparation and Resistance to Moisture and Contaminants](#), 2013) Tells us that the lab testing of soils can assist in identifying potential contaminants.

Lab testing of rock samples:

This would allow for the testing of strength, durability and chemical analysis. (Building Regulations Approved Document C – Site Preparation and Resistance to Moisture and Contaminants, Date) Tells us that the lab testing of soils can assist in identifying potential contaminants.

Checking for potential or existing hazards:

This would include checks for underground water courses, existing services such as drains, unstable rock, shrinkable clay, old foundations and mine shafts. (Building Regulations Approved Document C – Site Preparation and Resistance to Moisture and Contaminants, date) tells us that identifying all existing and potential hazards will assist in the preparation of the main site investigation.

Visit the site during peak traffic times:

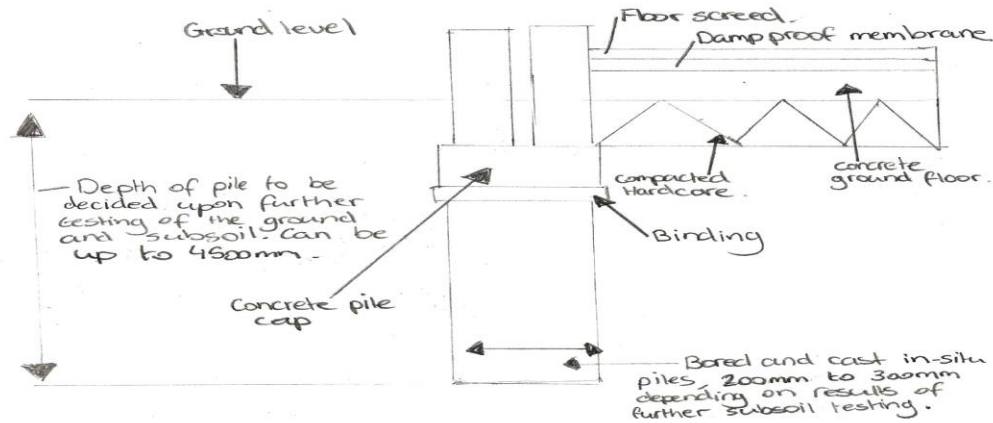
I would recommend the site should be visited during peak times as this can allow the speed in which logistics such as the transportation of materials and plant machinery can be carried out to be improved. This information could be utilized to improve logistics and reduce any unexpected delays during later phases of this project.

1.4 Foundations and substructure for the building.

During my desk top study I contacted the City and County of Swansea's building control office on 08 July 2019 and spoke to a building control officer who informed me that the general soil type in this area contains large amounts of sand and typically the type of foundations that would be appropriate for the area would be a pile foundation. The use of a pile foundation would counter act any movement that would have been caused by the sand. (CHUDLEY and GREENO, 2017) Tells us that a pile foundation is a form of foundation which is suitable for loadings with sand or clay subsoils where ground movements can occur below the 1000mm depth often associated with traditional strip and trench fill foundations. They can be utilized in sites such as the proposed site where trees are planted close to a new building since the trees may eventually cause damaging ground movements due to extracting water from the subsoil and root growth.

UK Building (Regulations [Approved Document A: structure](#) 2010) Tell us that the proposed building should be constructed in a way that the imposed loads, wind loads, and dead loads can be correctly transmitted to the ground both safely and without creating any defects to the building. When determining the type of foundation that should be used (Regulations [Approved Document A: structure](#) 2010) tells us that the proposed building should be constructed in a way that any ground movements caused by shrinkage, swelling or freezing of the subsoil can occur.

Considering this information, I would recommend the use of short bore piles as the mass of this proposed building would not require the use of deep bored piles. (see figure 6 for drawings of recommended foundations).



(figure 6)

1.5 Bibliography and references.

During the compilation of this report I widely referred to notes taken during my lectures. Other sources of information and references used in this assignment include:

CHUDLEY, R. and GREENO, R. (2017). *BUILDING CONSTRUCTION HANDBOOK*. ROUTLEDGE.

Marotta, T. (2011). *Basic construction materials*. Pearson.

Property.swansea.gov.uk. (2019). *Map Search*. [online] Available at: <https://property.swansea.gov.uk/online-applications/spatialDisplay.do?action=display&searchType=Application> [Accessed 12 july. 2019].

https://www.designingbuildings.co.uk/wiki/Construction_plant#Considerations_when_using_construction_plant [Accessed 12 July. 2019].

City and County of Swansea's building control office, 08 July 2019

Historypoints.org. (2019). *History Points - Swansea marina*. [online] Available at: <http://historypoints.org/index.php?page=swansea-marina> [Accessed 8 Jul. 2019].

Regulations Approved Document C – Site Preparation and Resistance to Moisture and Contaminants (2013).

Hotel.info. (2019). *Swansea Marriott Hotel – Great prices at HOTEL INFO*. [online] Available at: <https://www.hotel.info/en/swansea-marriott-hotel/hotel-170106/>.

UK Building Regulations Approved Document A: structure 2010